VERSION WITH MARKINGS TO SHOW CHANGES MADE:

IN THE CLAIMS:

Claim 12 has been amended as follows:

12. (Twice Amended) An injection mold, comprising a body member having a wall surface bounding a hollow for so receiving a first plasticized material as to wet only a partial area of the wall surface of the hollow, and subsequently so receiving a second plasticized material as to wet at least a part of the remaining area of the wall surface of the hollow; and a sensor arranged at a transition between the partial area and the remaining area of the wall surface of the hollow of the body member for ascertaining when the first plasticized material reaches the partial area on the wall surface.

REMARKS

The last Office Action of June 24, 2002 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1, 3 to 28 are pending in the application. Claim 12 has been amended. Enclosed is also a marked-up version of the changes made to the specification and claims by the current amendment. The enclosed page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**".

It is noted that claims 12-14 are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 3-11 and 15-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,294,385 (hereinafter "Hirota").

REJECTION OF CLAIMS 12-14 UNDER 35 U.S.C. §112, FIRST PARAGRAPH

Applicant has amended claim 12 to address the problems raised by the Examiner. More specifically, applicant has amended claim 12 by clarifying that the sensor is used to ascertain when the respective plasticized material reaches the intended area on the wall surface. This amendment is self-explanatory and

does not narrow the claim element to trigger prosecution history estoppel,

Withdrawal of the rejection of the claims 12-14 under 35 U.S.C. §112, first paragraph is thus respectfully requested.

REJECTION OF CLAIMS 1, 3-28 UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER HIROTA

The rejection of claims 1, 3-14 and 28 under 35 U.S.C. §103(a) is respectfully traversed.

The present invention as set forth in claims 1 and 12 relates to an injection molding process and injection mold, in which a first plasticized material is introduced into the hollow to wet only a partial area of the wall surface of the hollow, and another plasticized material is subsequently introduced into the hollow to wet at least a part of the remaining area of the wall surface of the hollow. Accordingly, part of the hollow becomes inaccessible for the first plasticized material to provide area for the subsequently introduced second plasticized material (cf., for example, page 2, lines 17-22, page 4, lines 12-14, or page 19, lines 6-12).

Hirota is directed to an injection molding method in which first and second molten synthetic resins are injected successively into a cavity of the injection mold. As clearly shown in Fig. 3 of Hirota, the second synthetic resin is entirely enclosed by the first synthetic resin and thus fails to wet any area of the wall surface of the injection mold.

The rejection of claims 15-27 under 35 U.S.C. §103(a) is respectfully traversed.

The present invention, as set forth in claim 15, relates to an injection molding machine having at least two secondary extruders interposed between a main extruder and the inlet to the mold. Hirota neither shows the arrangement of two such secondary extruders nor the provision of an injection piston as injection device, which is set forth in claim 16 and advantageous in particular in connection for small or smallest workpieces. Hirota also fails to show an arrangement by which melt is fed to a melt compartment of a main extruder via a control unit, whereby the movement of the secondary extruders for the melt is linked to a respective coupling element (claim 17). Hirota merely teaches a supply of both melts into the mold via two **separate** channels. Unlike Hirota, the present invention sets forth an injection molding device in which melt is supplied via the coupling element into the melt compartment of the main extruder and from there injected into the mold. The provision of a coupled movement allows easy control since it is only required to move the secondary extruder against the coupling element to trigger automatically the respective switchover for immediate transfer of melt from the secondary extruder to the main extruder. When the secondary extruder is then returned, the coupling element can be switched to allow injection of melt from the main extruder into the mold.

In summary, it is noted that Hirota merely describes the injection of melt via two separate channels and fails to teach or suggest a uniting of two melts in an extruder.

The present invention, as set forth in claim 23, is also directed to the provision of a control unit to connect the secondary extruder with the main extruder in a charging position so that melt is transferred from the secondary extruder into the main extruder. As a result, two different materials can be arranged in layers in the main extruder. A material lamination in this way is neither taught nor suggested in Hirota.

The present invention, as set forth in claim 25, is also directed to a laminated arrangement of melts in the main extruder, whereby the secondary extruder is provided in an adapter plate which forms part of the mold so that the overall construction becomes extremely space-saving. Heretofore, the secondary extruder has always been placed outside the mold in the machine area. As a consequence, prior art constructions are rather bulky. In contrast thereto, the present invention goes against common thinking, by integrating an extruder in the adapter plate.

The present invention, as set forth in claim 27, is also directed to a transfer of melt from a secondary extruder to a main extruder to realize a lamination of two materials in the main extruder for subsequent injection into the mold. While some embodiments according to the invention employ valves or channels to inject melt from the secondary extruder into the main extruder (and not into the mold), the embodiment as set forth in claim 27 uses the molded product in the mold itself to block a flow path from the secondary extruder to the mold by still leaving the molded product at least in the area of the hot channel, so that melt is forced to flow to the main extruder for lamination. After ejecting the

molded product, the next workpiece can be molded by merely operating the main extruder. As soon as the workpiece is molded, melt can be transferred from the secondary extruder to the main extruder since the path to the mold is blocked. In this way, the desired lamination in the main extruder can be carried out at relatively great clock cycles and then injected from the main extruder into the mold.

Hirota is silent as to the configuration of an injection molding device as set forth in claim 27.

For the reasons set forth above, it is applicant's contention that Hirota neither teaches nor suggests the features of the present invention, as recited in independent claims 1, 12, 15, 16, 17, 23, 25 and 27.

As for the rejection of the retained dependent claims, these claims depend on claims 1, 12, 15, 16, 17, 23, 25 and 27, respectively, share their presumably allowable features, and therefore it is respectfully submitted that these claims should also be allowed.

Withdrawal of the rejection under 35 U.S.C. §103(a) and allowance of claims 1, 3 to 28 are thus respectfully requested.

CITED REFERENCES

Applicant has also carefully scrutinized the further cited prior art and finds it without any relevance to the newly submitted claims. It is thus felt that no specific discussion thereof is necessary.

CONCLUSION

Applicant believes that when the Examiner reconsiders the claims in the light of the above comments, he will agree that the invention is in no way properly met or anticipated or even suggested by any of the references however they are considered.

In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant would greatly appreciate such a telephone interview.

Respectfully submitted,

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